

## Claims

What is claimed is:

1. Device for imposing on a heavy load (1) a movement comprising at least one horizontal component, the device incorporating at least one actuating unit (3, 4) comprising:
  - a support (10) which is immobile in the horizontal direction, for supporting the said load;
  - a first mobile element (18) for sliding relative to the support in a reciprocating movement comprising a horizontal component and a vertical component;
  - a second mobile element (21) supported by the first mobile element and intended to slide relative to the first mobile element in a reciprocating movement substantially parallel to the movement to be imposed on the load (1); and
  - means (30, 31) for controlling the sliding of the first and second mobile elements according to consecutive cycles, each comprising
    - a first phase in which the first mobile element (18) effects a sliding stroke in the upward direction and raises the second mobile element (21), which is held substantially immobile in the horizontal direction and which itself lifts the load from the support (10);
    - a second phase in which the first mobile element (18) is kept substantially immobile and the second mobile element (21), jointly with the load (1) supported thereby, effects a sliding stroke in the direction of movement to be imposed on the load (1);
    - a third phase in which the first mobile element (18) effects a sliding stroke in the downward direction and lowers the second mobile element (18), which is held substantially immobile in the horizontal direction and itself lowers the load (1) in order to rest the same on the support (10); and

- a fourth phase in which the first mobile element (18) is kept substantially immobile and the second mobile element (21) effects a sliding stroke alone in the direction opposite to the movement to be imposed on the load (1).
2. Device according to claim 1, wherein the horizontal components of the movements of the load (1) and of the first mobile element (18) have the same direction (D).
  3. Device according to claim 1, wherein the horizontal components of the movements of the load (1) and of the first mobile element (18) have the same direction (D) and, in the first phase of the cycle, the horizontal component of movement of the first mobile element is oriented in the direction (F1) of the horizontal component of movement to be imposed on the load.
  4. Device according to claim 1, wherein the horizontal components of the movements of the load (1) and of the first mobile element (18) have the same direction (D) and, in the first phase of the cycle, the horizontal component of movement of the first mobile element is oriented in the opposite direction (F2) to the horizontal component of movement to be imposed on the load.
  5. Device according to claim 1, wherein the support (10) comprises two cheeks (14) having respective upper edges (23) for simultaneously supporting the load, the two cheeks defining between them a channel (15) elongate substantially in the direction (D) of movement to be imposed on the load, in which channel the mobile elements are housed.
  6. Device according to claim 1, wherein the actuating unit (3, 4) is capable of adopting a variable gradient in a vertical plane parallel to the direction (D) of the movement to be imposed on the load in order to adapt to the profile of the load (1) in the said plane.

7. Device according to claim 1, wherein the support (10) comprises two cheeks (14) having respective upper edges (23) for simultaneously supporting the load, the two cheeks defining between them a channel (15) elongate substantially in the direction (D) of movement to be imposed on the load, in which channel the mobile elements are housed and wherein the actuating unit (3, 4) is supported by at least two fluidic jacks (13), which are aligned in the direction (D) of the horizontal component of the movement to be imposed on the load and which intercommunicate via their fluid.
8. Device according to claim 1, wherein the means for controlling sliding of the mobile elements comprise fluidic jacks (30, 31).
9. Device according to claim 1, wherein at least two actuating units (3, 4) are provided, spaced apart in at least one horizontal direction, the means for controlling sliding of the mobile elements comprising means (40, 41) for synchronising the movements of the mobile elements (18, 21) of the different actuating units.
10. Device according to claim 1 wherein the horizontal components of the movements of the load (1) and of the first mobile element (18) have the same direction (D), at least two actuating units (3, 4) are provided, spaced apart in at least one horizontal direction, the means for controlling sliding of the mobile elements comprises means (40, 41) for synchronising the movements of the mobile elements (18, 21) of the different actuating units, and wherein two actuating units (3, 4) are located in the vicinity of one another, the horizontal components (F1, F2) of the movements of their first mobile elements being oriented in opposite directions.
11. Process of imposing on a heavy load (1) a movement comprising at least one horizontal component, by means of a device according to one of the

preceding claims, in which process the sliding of the first and second mobile elements is controlled according to consecutive cycles, each comprising:

- a first phase in which the first mobile element (18) effects a sliding stroke in the upward direction and raises the second mobile element (21), which is kept substantially immobile in the horizontal direction and which itself lifts the load from the support (10);
- a second phase in which the first mobile element (18) is kept substantially immobile and the second mobile element (21), jointly with the load (1) supported thereby, effects a sliding stroke in the direction of movement to be imposed on the load (1);
- a third phase in which the first mobile element (18) effects a sliding stroke in the downward direction and lowers the second mobile element (21), which is held substantially immobile in the horizontal direction and itself lowers the load (1) in order to rest the same on the support (10); and
- a fourth phase in which the first mobile element (18) is kept substantially immobile and the second mobile element (21) effects a sliding stroke alone in the direction opposite to the movement to be imposed on the load (1).